



Catherine E. Heigel, Director

Promoting and protecting the health of the public and the environment

February 8, 2016

Beverly H. Banister, Director
Air, Pesticides & Toxics Management Division
US EPA Region 4
Sam Nunn Atlanta Federal Center
61 Forsyth St., SW
Atlanta, GA 30303

RE: Ambient Air Monitoring Site Waiver Requests

This letter is to inform you of modifications that the South Carolina Department of Health and Environmental Control (Department) wishes to make to the South Carolina Monitoring Network. Specifically, the Department respectfully requests approval for a 40 CFR Part 58, Appendix E – Probe Siting waiver to be granted for the Congaree Bluff (45-079-0021) Site. Also, the Department requests a waiver to be reissued for the Greenville ESC (45-045-0015) Site.

Chapter 40 of the Code of Federal Regulation (CFR) Part 58 Appendix E Section 10 - Waiver Provisions, states that "The EPA will consider a written request from the State agency to waive one or more siting criteria for some monitoring sites providing that the State can adequately demonstrate the need (purpose) for monitoring . . . at that location" and (in Section 10.1.2) if "the monitor or probe cannot reasonably be located so as to meet the siting criteria because of physical constraints (e.g., inability to locate the required type of site the necessary distance from roadways or obstructions)". The Department believes that the requirements for consideration of the above waivers specified in 40 CFR Part 58 Appendix E 10 are met.

Reissuance of Waiver for Greenville ESC Ambient Air Monitoring Site (45-045-0015)

General site information

The Department requests a reissuance of a waiver for the probe siting criteria for spacing from obstructions specified in 40 CFR Part 58 Appendix E 4(a) for the criteria pollutant sampling being conducted at the Greenville ESC Ambient Air Monitoring Site (45-045-0015) in Greenville County. Basic information on the Site is listed in Table 1. The site record indicates that both requirements specified in 40 CFR Part 58 Appendix E 10.1 for consideration of a waiver have been met.

Table 1: General Information for the Greenville ESC Site

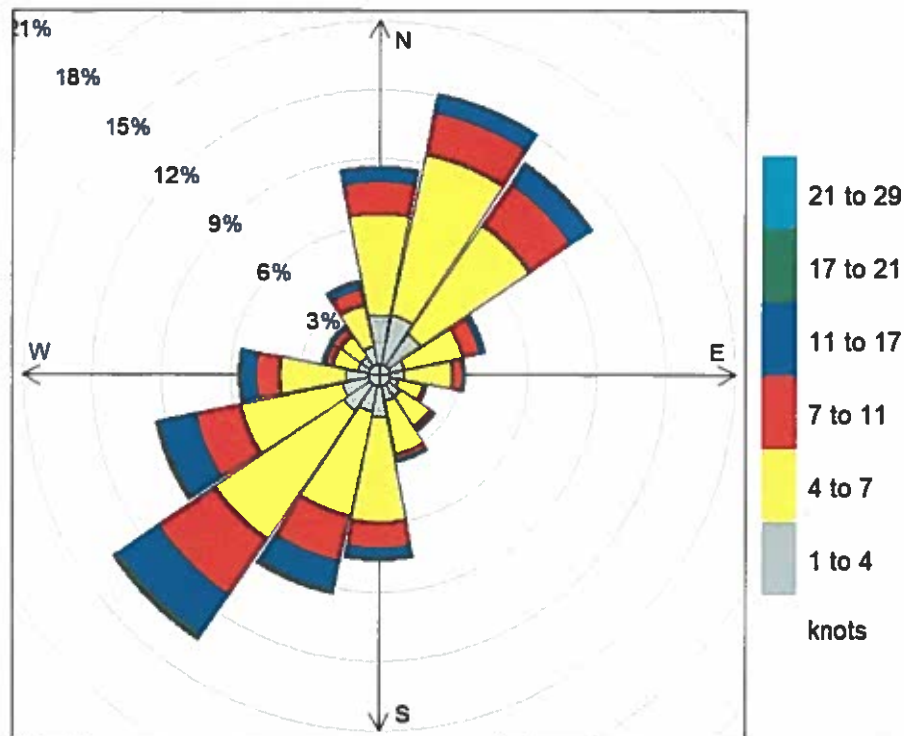
Item	Description
AQS ID	45-045-0015
Street Address	133 Perry Avenue
Geographic coordinates	+34.84389, -82.41458
<i>SULFUR DIOXIDE</i>	
Designation	SLAMS
Analysis method	FEM UV fluorescence
Sampling Frequency	Continuous
Monitoring objective	Population Exposure
Monitoring scale	Neighborhood
<i>NITROGEN DIOXIDE</i>	
Designation	SLAMS
Analysis method	FRM
Sampling Frequency	Continuous
Monitoring objective	Population
Monitoring scale	Neighborhood
MSA represented	Greenville-Spartanburg-Anderson CSA / Greenville-Anderson-Mauldin MSA
<i>PM_{2.5}</i>	
Designation	SPM
Analysis method	FEM TEOM
Sampling Frequency	Continuous
Monitoring objective	Population Exposure Required FEM Collocation
Monitoring scale	Neighborhood
<i>PM₁₀</i>	
Designation	SLAMS
Analysis method	FEM TEOM
Sampling Frequency	Continuous
Monitoring objective	Population Exposure
Monitoring scale	Neighborhood

Predominant and secondary wind patterns

The wind data from the Greenville-Spartanburg International Airport is representative of the wind pattern for the Greenville ESC Site. Using 2010-2013 data, the wind rose in Figure 1 was created. It indicates that the predominant wind directions for this Site are from the southwest and the north-northeast. Also, secondary dominant winds come from the northeast.

Figure 1: Wind Rose for the Greenville ESC Site

Greenville-Spartanburg Airport Wind Rose 2010-2013



Justification for request

An aerial picture of the Greenville ESC Site location and the obstructions (Figure 2), and two panoramic views of the Site (Figures 3 and 4), are shown below. The Greenville ESC Site is constrained by the presence of underground utilities that limit possible placement of the building and stand. The Site was placed approximately equidistant from the most significant trees. The Site topography, land use, and vegetation density is typical of the area being represented. The Site was granted a waiver for the potential obstruction to air flow in 2009¹.

Two mature trees have been identified as protruding above the sampler probes, as currently configured, more than half the distance to the probe. Relocation of the monitors on the stand was done to maximize the distance from the trees, but the minor rearrangements and improvements that were possible did not have any detectable impact on measured concentrations or representativeness of the monitoring for the criteria pollutants. All other Appendix E probe siting criteria are being met at this Site.

¹ Meiburg, Nov 6, 2009

Figure 2: Greenville ESC (45-045-0015) - Site Location and Obstructions

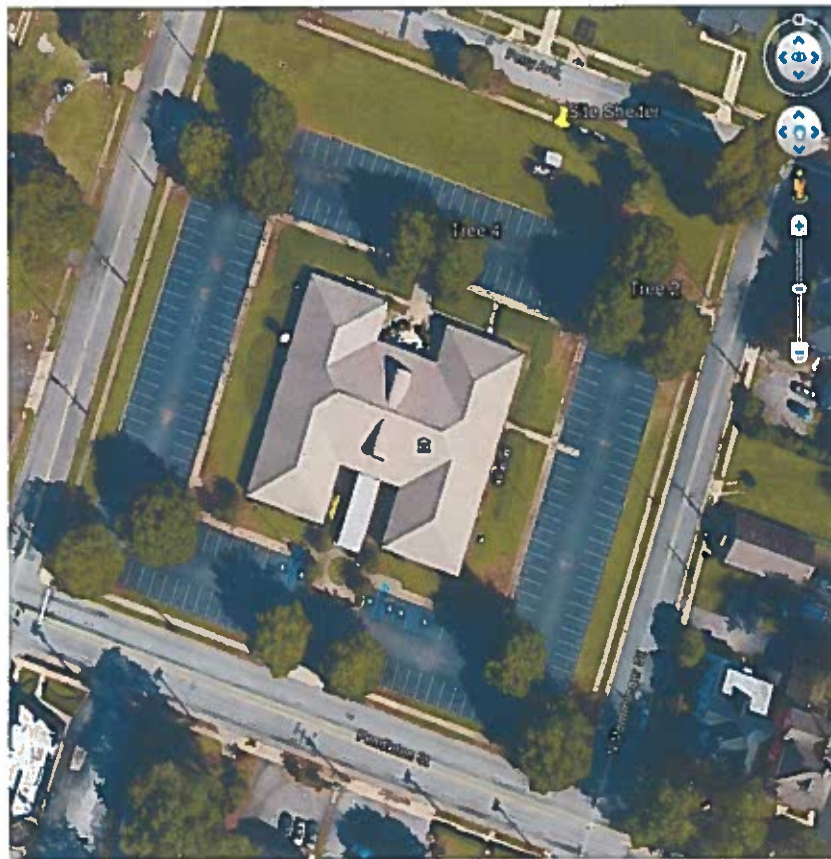


Figure 3: Greenville ESC Panorama Taken from Stand



Figure 4: Greenville ESC Panorama Taken from Roof of Monitoring Building



Waiver for Congaree Bluff (45-079-0021)

General site information

The Department requests approval for a waiver to be granted for the probe siting criteria for spacing from obstructions specified in 40 CFR Part 58 Appendix E Section 4, Section 5, and Section 11 Table E-4 for the ozone monitoring being conducted at the Congaree Bluff Ambient Air Monitoring Site (45-079-0021) in Richland County.

The Congaree Bluff Site is located within the boundary of the Congaree National Park (Park), which was established by Congress in 1976. The Site represents general/background concentrations within the Congaree National Park. Most of the Park is designated as Wilderness and also has a Class II Floor Area designation². The NPS has a Resource Management Plan, which includes an agreement with the Department to operate an air monitoring station within the Park boundaries. The original Site (Congaree Swamp (45-079-1006)) was located in the flood plain and had to be relocated in 2001 because of operation and long term viability of the monitoring activity within a designated wilderness area³. As a result of the Wilderness designation, modifications or improvements are highly restrictive and, in some cases, prohibited. Basic information on the Site is listed in Table 2.

Table 2: General Information for the Congaree Bluff Site

Item	Description
AQS ID	45-079-0021
Street Address	1850 South Cedar Creek Road
Geographic coordinates	+33.81467, -80.78113
OZONE	
Designation	SPM
Analysis method	FEM Ultraviolet Photometry
Sampling Frequency	Continuous
Monitoring objective	General / Background
Monitoring scale	Urban
SULFUR DIOXIDE	
Designation	SPM
Analysis method	FEM UV Fluorescence

²Southeast Support Office, Natural Resources Management, *Relocation of the Ambient Air Quality Monitoring Station at Congaree Swamp National Monument*, by Bobby C. Carson, (Columbia, South Carolina, August, 1998).

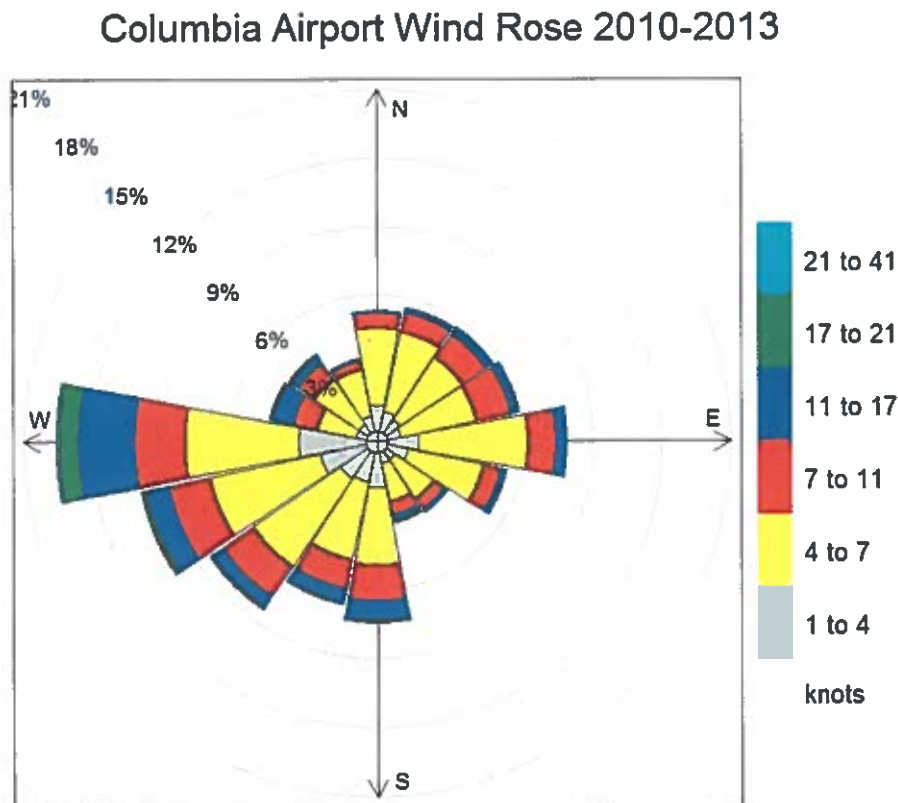
³South Carolina Department of Health and Environmental Control, *General Management Plan/Wilderness Suitability Study and Environmental Assessment letter*, by Otto Pearson, (Columbia, South Carolina, December 17, 1987).

Table 2: General Information for the Congaree Bluff Site	
Item	Description
Sampling Frequency	Continuous
Monitoring objective	General / Background
Monitoring scale	Urban

Predominant and secondary wind patterns

The wind data from the Columbia Metropolitan Airport is representative of the wind pattern for the Congaree Bluff Site. Using 2010-2013 data, the wind rose in Figure 5 was created. It indicates that the predominant wind direction for this Site is from the west. Also, secondary dominant winds come from the west-southwest, southwest, and north.

Figure 5: Wind Rose for the Congaree Bluff Site



Justification for request

An aerial picture of the Congaree Site location and the obstructions in Figure 6, and one panoramic view of the Site (Figure 7), are shown below. The Department conducted an evaluation of siting criteria in accordance with 40 CFR Part 58, Appendix E, Section 4(a), which requires that the distance from the obstacle (such as a tree) to the probe inlet must be at least twice the height that obstacle protrudes above

the probe inlet. The requirement for Spacing from trees (Appendix E 5(a)) is not met at this Site. Two types of spacing violations of the siting criteria exist. The first is a drip line violation southeast of the monitoring site. The probe is not at least ten meters from the drip line of the tree. These limbs will be pruned back to increase the distance from the probe to greater than ten meters before March 31, 2016. The second violation is that numerous trees were identified as obstructions and would need to be removed in order to meet the siting criteria. Staff have estimated that in order to comply with the requirements of Appendix E approximately 44 trees would need to be removed. Figure 7 provides a comprehensive view of all of the trees that would need to be removed. The trees of concern are primarily located to the north-east, east, south-east, and south of the monitoring site. The forestry staff at the Park are willing, but hesitant to remove some of the trees as they are vital to the delicate ecosystem there, particularly to the endangered Red-cockaded Woodpecker.

The probes at the Congaree Bluff Site cannot be reasonably located so as to meet the siting criteria because of physical constraints, nor is there a suitable site to which to move the station, as there are firm restrictions on changes made to the Site. Also, the current location of the Congaree Bluff Site is in a clearing within the bounds of the Congaree National Park and is constrained by the presence of underground utilities that limit possible placement of the building and stand. In order to resolve the siting issues at the Congaree Bluff Site, the Department intends to explicitly state in the next modification of the annual monitoring plan that the purpose of this Site is to characterize air quality within the Congaree National Park and change the scale of the monitor in the Air Quality System (AQS) from “Urban” to “Neighborhood”.

Figure 6: Congaree Bluff (45-079-0021) - Site Location and Obstructions

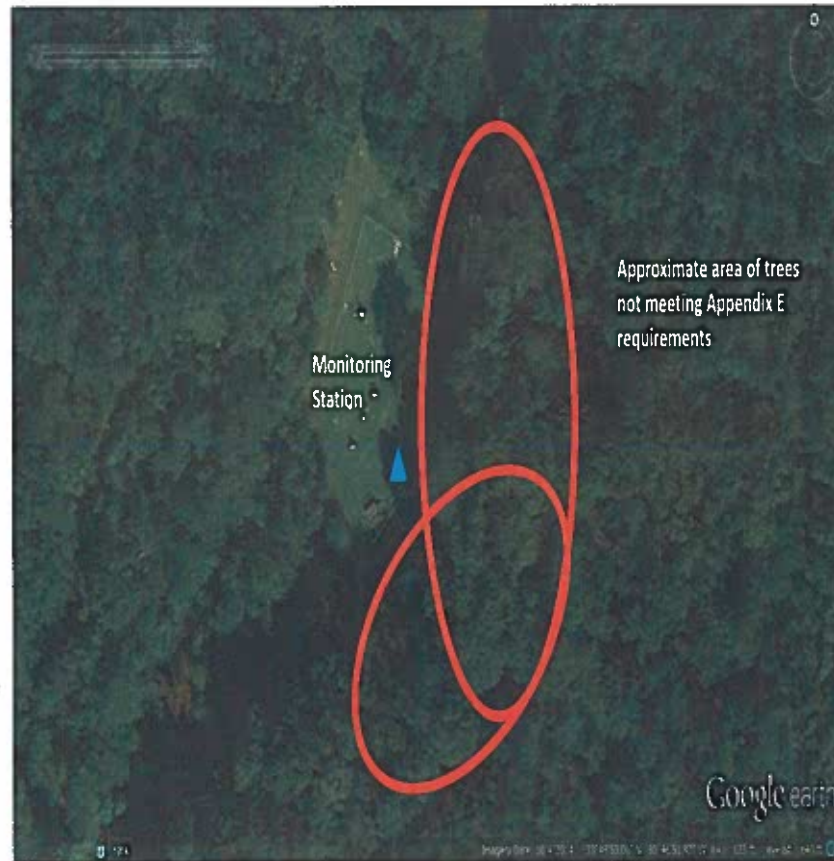


Figure 7: Congaree Bluff Panorama Taken from Continuous Monitor



Public comment period

The public comment period for these site waiver requests will be from February 8, 2016 through March 8, 2016. All comments received will be forwarded to EPA Region 4 along with the Department's response.

Thank you for your consideration to grant these two waivers and the reissue of a waiver for the spacing from obstructions requirements for these Sites. Should you have any questions or need additional information regarding this matter, please contact Robert Brown of my staff at (803) 898-4105.

Sincerely,

A handwritten signature in black ink, appearing to read 'Rhonda Banks Thompson', with a stylized, flowing script.

Rhonda Banks Thompson
Interim Bureau Chief
Bureau of Air Quality

cc: Todd Rinck, US EPA Region 4, Chief, Air Data & Analysis Section
Ryan Brown, US EPA Region 4
Renee Shealy, BEHS
Sandra Flemming, BEHS
Robert Brown, BAQ
Scott Reynolds, BEHS

